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## NEW SPECIES OF ODONTOSTOMUS FROM BRAZIL AND ARGENTINA.

BY HENRY A. PILSBRY.

The forms noticed below are mainly recent accessions to the collection under my charge, received from Dr. H. von Ihering, the Director of the young but progressive Brazilian institution, the Museu Paulista. Three of the species belong to the subgenus of *Odontostomus* called *Macrodontes*, a group characterized by the continuous peristome, spirally lirulate earlier whorls, and regular, fine striation of the later ones, with minute and shallow but close spiral incised decussating lines. This very distinct subgenus contained four species: *odontostomus* Sowerby, *fasciatus* Dohrn, *Grayanus* Pfr. and *cordovanus* Pfr. Dr. von Ihering's zoological explorations have already nearly doubled this number.

All of the species of *Macrodontes* hitherto known have the aperture obstructed by large teeth; but in two of the new forms, *degeneratus* and *Dautzenbergianus*, the teeth have degenerated to such a degree that they are probably no longer functional as barriers against predacious arthropods. In another, *paulista*, the teeth are more strongly developed than in any other *Macrodontes*.

*Odontostomus (Macrodontes) paulista* Pilsbry & v. Ihering, n. sp.

Shell lengthened fusiform; rather solid; reddish-chestnut, with irregular, lacerated and somewhat zigzag, obliquely longitudinal, hydrophanous, cream-tinted streaks. Surface dull, very minutely but sharply striated in the direction of growth lines, a strong lens showing much more minute and superficial, dense, spiral striation, the apical whorls spirally lirate. Whorls 6, the first turned in, the rest rather rapidly and regularly increasing, moderately convex, the last becoming free at the aperture, compressed behind the outer lip, the trench there impressed by five pits; base pinched into an acute, produced keel; and behind the columellar lip there are two pits and a deep axial pit, with another shallow pit behind the elevated parietal wall. Aperture slightly oblique, narrow, irregularly oblong, obstructed by eight pliciform teeth and a strong, deep-seated columellar lamina; peristome continuous, white, reflexed throughout, the outer lip with two large teeth situated like those in *O.*

*odontostomus*, with smaller teeth between them and another above the upper one; the teeth upon the columellar and parietal margins corresponding in position with those of *O. odontostomus*.

Alt. 37, diam. 12 mm. length of aperture (including peristome) 15, width 8 mm.

Iguape, prov. S. Paulo, Brazil (Dr. H. von Ihering).

This most beautiful of the *Macrodonates* species has hydrophanous cuticular markings somewhat like *Auris Hauawelli* (Crosse). It differs conspicuously from the well known *O. odontostomus* in the more slender contour, basal instead of baso-peripheral position of the keel, and the longer and narrower aperture, which is consequently more filled by the large teeth. There is also one more tooth, and the striation is much finer. *O. Grayanus* differs strongly in the less tapering and quite differently shaped base, as well as in lacking the median tooth of the outer lip, etc.

***Odontostomus (Macrodonates) Dautzenbergianus* n. sp.**

Shell oblong-ovate, thin, light chestnut with a golden sheen and sparse, narrow oblique or zigzag creamy hydrophanous markings (absent on some specimens); surface dull, with very minute but regular and sharp striation along the lines of growth, and much finer, shallower, close spiral lines; the apical  $1\frac{3}{4}$  whorls delicately spirally lirulate. Whorls 5, the first with in-turned tip, the rest rapidly increasing, convex, the last becoming very shortly free at the aperture, somewhat compressed behind the outer lip, and with three small pits; the base pinched into a short keel, behind the columellar lip two-pitted, with a deep umbilical fissure. Aperture irregularly oblong; peristome continuous, reddish or flesh colored, narrowly reflexed, the upper margin with a small blunt tooth, outer lip with three small teeth within, the lowest low and wide, the upper two minute and acute, whitish; basal lip with one low, wide tooth, the columella with a strong oblique fold upon which a minute whitish denticle is placed, another one being situated below the columellar fold.

Alt. 26, diam. 11 mm.; length of aperture 12, width  $7\frac{1}{2}$  mm. (including peristome).

Raiz da Serra, Sao Paulo, Brazil (Dr. H. von Ihering).

This species, to which we have attached the name of a distinguished French conchologist, is obviously a member of the *O. odontostomus* group of *Macrodonates*, agreeing with those forms in the positions of the denticles; but in our species the armature of the aper-

ture has degenerated to a series of very small denticles. For the rest, the form is fuller than any other known *Macrodontes*.

A specimen from Cubatad, Sao Paulo, differs from the type in being darker colored, of a dark reddish-chestnut hue, somewhat more solid, with the denticles on the outer lip and columellar margin subobsolete, hardly noticeable, and of the reddish color of the lip itself; the pits behind the lip are correspondingly obsolete, but there are two minute white denticles on the columellar fold. This shell measures: alt. 26, diam. 10 mm.; length of aperture 11, width  $6\frac{1}{2}$  mm.

*Odontostomus (Macrodontes) degeneratus* n. sp.

Shell oblong-turreted, minutely perforated, thin but moderately strong, pale yellowish-green tinted. Surface hardly shining, striated in the direction of growth-lines, the striæ hardly visible without the aid of a lens, under which they are seen to be thread-like, well raised, finely but rather superficially cut into beads by decussating spirals which crenulate the summits of the striæ. Spire convexly conic, the apex obtuse; whorls nearly 6, quite convex, the earlier  $1\frac{1}{2}$  densely spirally striated, the last whorl becoming free and somewhat descending in front, constricted and showing 3 small pits behind the outer lip, bicarinate at base, the keels short, outer one strongly pinched up, the inner low, rounded, a distinct depression between them. Aperture oblique, quadrangular-oblong, nearly  $\frac{1}{3}$  the total length of the shell, obstructed by a strong columellar fold which terminates below in a transverse lamella, and by 6 small, tuberculi-form teeth: one upon the parietal margin close to its posterior termination, three upon the outer lip, the uppermost quite small, and with the parietal denticle, defining a small rounded posterior sinus or notch, the others low, removed from the lip-edge; basal tooth median; columellar tooth below the columellar fold. Peristome white, narrowly reflexed, continuous and free throughout. Alt. 21, greatest diam. 8.3, length of aperture 7 mm.

Palmeiras, Province of Paraná, Brazil (Dr. H. von Ihering).

The species here described differs so widely from all other known species of the group, that detailed comparisons are needless.

*Odontostomus (Plagiodontes) Iheringi* Pilsbry & Vanatta, n. sp.

Shell deeply rimate, pupiform with conic spire, rather solid, light olivaceous brownish with darker longitudinal streaks; somewhat shining, sculptured with fine, irregular growth-striæ. Last whorl

subcylindrical or barrel-shaped, those above rapidly tapering, forming a rather short, conic spire. Whorls  $6\frac{1}{2}$  or 7, nearly flat, the last with a more or less distinct basal keel on its latter half, and having a small flattened tract within the keel behind the basal lip. Aperture slightly oblique, shortly, irregularly ovate, obstructed by three principal lamellæ and one or two smaller denticles or teeth; one lamella well within on the parietal wall, bifid at its outer end; one very obliquely entering lamella on the columella; and a third lamella within the outer lip near its middle. Besides these there is a denticle or very small lamella on the basal lip near the foot of the columella, and another within the outer lip above the median lamella.

Alt. 19, diam. 9, length of aperture  $8\frac{1}{2}$  mm.

Alt. 20, diam. 9, length of aperture  $8\frac{1}{2}$  mm.

Sierra Ventana, Argentine Republic.

This species does not seem to be closely allied to any of the numerous Argentine forms described by Doering, a part of which have not yet been figured. Only one of the specimens shows the small denticle above the lamella on the outer lip.